

The three Forrest specimens cited above present a deviation from typical var. *carnea* in that they all possess white flowers. Also the leaves of no. 25724 are distinctly glabrous while the other two specimens (nos. 23535 and 23573) are densely puberulent on the rhachis, petiole and lower surface of the leaves.

Besides these three cited specimens two other numbers may be mentioned under this variety. These all vary from typical *R. multiflora* var. *carnea* in having smaller, glabrous leaves measuring only 1–2 cm. in length and being distinctly obtuse or rounded at the apex. All together the variation seemed so great that on the first superficial examination one would hardly class them as belonging to the same species. The data of these two specimens are as follows:—Amongst scrub by streams near habitations, Chienchuan-Mekong divide, lat. 26° 20' N., long. 99° 20' E., alt. 2440 m., *G. Forrest*, no. 23487, June, 1923 (spinous shrub, 1–3.5 m.; fls. pale yellow); amongst scrub by streams, Chienchuan-Mekong divide, lat. 26° 20' N., long. 99° 20' E., alt. 2440 m., *G. Forrest*, no. 23518, July 1923 (spinous, semi-scandent shrub, 3–4.5 m.; fls. fragrant, deep rose). One observes in examining the annotation on the labels of these two specimens that the color variation is very great; the former specimen (no. 23487) with its yellow flowers agreeing with the numbers cited in the paragraphs above while the latter (no. 23518) having rose colored flowers agrees with typical *R. multiflora* var. *carnea* as it is generally known.

Rosa Brunonii Lindley, *Ros. Monog.* 120, t. 14 (1820).—Rehder & Wilson in *Sargent, Pl. Wils.* II. 306 (1915), where full citation of literature and synonyms is given.—Byhouwer in *Jour. Arnold Arb.* x. 306 (1915).

Exact locality and date lacking, northwest Yunnan, *T. Monbeig*, nos. 93 and 94, in 1907.

Rosa Helenae Rehder & Wilson in *Sargent, Pl. Wils.* II. 310 (1915).—Byhouwer in *Jour. Arnold Arb.* x. 88 (1929).

Rosa floribunda Rolfe in *Gard. Chron.* ser. 3, LVIII. 210 (1915), pro parte.
—Non Steven, nec Baker.

On trees and scrub in thickets, Chienchuan-Mekong divide, lat. 26° 30' N., long. 99° 20' E., alt. 2440–2740 m., *G. Forrest*, no. 23534, June 1923 (scandent, spinous shrub 3–9 m.; fls. white, fragrant).

Rosa longicuspis A. Bertoloni in *Mem. Acad. Sci. Bologna*, XI. 201, t. 13, (1861); *Misc. Bot.* XXI. 15, t. 3 (1861).—Rehder & Wilson in *Sargent, Pl. Wils.* II. 313 (1915).—Byhouwer in *Jour. Arnold Arb.* x. 88 (1929), where full citation of literature and synonyms is given.

Vallons du Tchong chan, Yunnan-sen, *F. Ducloux*, no. 1210, April 28, 1909; Ko [?]-tsou region de Kiao Kia, *F. Ducloux*, no. 1211, Mai 11, 1909 (plante cueillie par le père S. Ten); Tchen fong chan dans la prefecture de Tchao tong, *F. Ducloux*, no. 635, Mai 11, 1901; open thickets and by streams along ascent of the Li-ti-puie from the Yangtze, lat. 27° 12' N., alt. 2740–3050 m., *G. Forrest*, no. 13875, June 1917 (spinous shrub, 2–4

m.; fls. fragrant, white, flushed and margined rose); date and exact locality lacking, *E. B. Howell*, nos. 209 and 210.

Rosa glomerata Rehder & Wilson in Sargent, Pl. Wils. II. 309 (1915).—Byhouwer in Jour. Arnold Arb. x. 91 (1929).

Amongst scrub by streams, Chienchuan-Mekong divide, lat. 26° 30' N., long. 99° 20' E., alt. 2740 m., *G. Forrest*, no. 23491, July 1923 (spinous, semi-scandent shrub, 3–4.5 m.; fls. fragrant, white).

Sect. *BANKSIAE* Crépin in Jour. Hort. Soc. XI. 3 (1889).

Rosa Banksiae Ait. f. *lutea* Lindley in Bot. Reg. XIII. t. 1105 (1827).—Byhouwer in Jour. Arnold Arb. x. 92 (1929):

Rosa Banksiae f. *luteiflora* Lévillé, Cat. Pl. Yun-Nan, 234 (1917), nomen.
Rosa Banksiae f. *luteo-plena* Rehder in Bailey, Cycl. Amer. Hort. IV. 1552 (1902).

In thickets and hedges and by streams around villages, Chienchuan-Mekong divide, lat. 26° 30' N., long. 99° 20' E., alt. 2440 m., *G. Forrest*, no. 23516, July 1923 (non-spinous? shrub, 2–3 m. with arched branches; fls. bright, soft yellow).

Sect. *INDICAE* Thory, Prodr. Gen. Rosae, 128 (1820).

Rosa odorata Sweet var. *gigantea* Rehder & Wilson in Sargent, Pl. Wils. II. 338 (1915), where full citation of literature and synonyms is given.—Byhouwer in Jour. Arnold Arb. x. 94 (1929).

Vallons du Tchong chan, Yunnan-sen, *F. Ducloux*, no. 634, April 13, 1904; Eul long Keou region de Kiao Kia, *F. Ducloux*, no. 1209 April 1909 (Plante cueillie par le père S. Ten); by streams around habitations, Chienchuan-Mekong divide, lat. 26° 20' N., long. 99° 20' E., alt. 2440 m., *G. Forrest*, no. 23575, June 1923 (erect shrub 2–3 m. with arched branches; fls. fragrant, rose-pink).

Rosa chinensis Jacquin, Obs. Bot. III. 7, t. 55 (1768).—Rehder & Wilson in Sargent, Pl. Wils. II. 320 (1915), where full citation of literature and synonyms is given.—Byhouwer in Jour. Arnold Arb. x. 96 (1929).

Village dans les vallons au N. E. de la villa, Yunnan-sen, *F. Ducloux*, no. 620, April 11, 1906.

Sect. *CINNAMOMEAE* De Candolle apud Seringe, Mus. Helv. I. 2 (1818).

Rosa multibracteata Hemsley & Wilson in Kew Bull. Misc. Inform. 1906, p. 156.—Rehder & Wilson in Sargent, Pl. Wils. II. 328 (1915), where full citation of literature and synonyms is given.—Byhouwer in Jour. Arnold Arb. x. 101 (1929).

Without exact locality, Père Monbeig, no. 95, in 1907.

Rosa sertata Rolfe in Bot. Mag. CXXXIX. t. 8473 (1913).—Rehder & Wilson in Sargent, Pl. Wils. II. 327 (1915), where full citation of literature and synonyms is given.—Byhouwer in Jour. Arnold Arb. x. 100 (1929).

Ad vias, regione prope Yung ning, *C. Schneider*, no. 1169, June 19, 1914 (frut. erect. circiter 2 m. alt.)

Sect. *SERICAE* Crépin in Jour. des Roses xv. (Nouv. Class Ros. 25) (1891).

Rosa omeiensis Rolfe in Bot. Mag. cxxxviii. t. 8471 (1912).—Rehder & Wilson in Sargent, Pl. Wils. II. 331 (1915), where full citation of literature and synonyms is given.—Byhouwer in Jour. Arnold Arb. x. 102 (1929).

Djou kou la près Pin tchouan, *F. Ducloux*, no. 627, 1907 (plante cueillie par Jean Ty); without exact locality, *Père Monbeig*, nos. 89 and 90, in 1907.

NOTE ON DARLINGIA SPECTATISSIMA F. V. MUELL. WITH DESCRIPTION OF A NEW VARIETY

C. T. WHITE

Government Botanist, Brisbane, Queensland

ONE of the commonest trees in the rain-forests of Northeast Queensland is *Darlingia spectatissima* F. v. Muell. In October 1899 J. F. Bailey named a second species from leaves only as *D. ferruginea*, suggesting at the same time it might when better known prove only to be a more ferruginous form of *D. spectatissima* F. v. Muell. From flowering specimens recently sent to me by Mr. W. J. Ross and some collected on behalf of the Arnold Arboretum by Mr. S. F. Kajewski I have no hesitation in referring *D. ferruginea* J. F. Bailey as a variety to *D. spectatissima* F. v. Muell. This note is published before a general account of S. F. Kajewski's North Queensland collection as he collected a number of sheets and a distribution of his number as *D. spectatissima* F. v. M. has been made.

Darlingia spectatissima F. v. Mueller, *Fragm. Phytogr. Austr.* v. 152 (1886).

NORTH QUEENSLAND: Rockingham Bay, *J. Dallachy*; Upper Barron River, *J. F. Bailey*; Atherton, *J. F. Bailey*, *H. W. Mocatta*; Evelyn, *J. F. Bailey*; Yarrabah near Cairns, *N. Michael*; Yungaburra, *J. L. Tardent*; Johnstone River, *T. L. Bancroft*, *N. Michael*. (See also *Domin* in *Bibl. Bot.* xxii (89¹) 593 [1921]).

Darlingia spectatissima F. v. Muell. var. *ferruginea*, var. nov.

D. ferruginea J. F. Bailey in *Queensl. Agric. Jour.* v. 402 (1899).

This variety differs from the normal form in young leaves being densely red-ferruginous tomentose on the lower side, the hairs never totally disappearing even from the older leaves.

NORTH QUEENSLAND: Evelyn (local name Brown Oak), *J. F. Bailey* (leaves only), *W. J. Ross* (type of the variety); Atherton, *C. T. White* (leaves only); Malanda, *C. T. White* (leaves only); Gadgarrah Reserve, Atherton Tableland, alt. 800 m., *S. F. Kajewski*, no. 1127.

Common in the rain-forest; medium sized tree up to 25 m.; flowers cream with a delightful perfume.

GRAFT-BLIGHT OF LILAC

KENNETH S. CHESTER

SINCE 1928 I have been engaged in a study of the diseases of Lilacs. Among these there is a destructive and widespread disease of the common Lilac, *Syringa vulgaris*, which is a sequent to a prevailing method of nursery practice and to which I have given the name GRAFT-BLIGHT. It is a disease of exceptional interest and importance and one to which I have given special attention. The investigation of this particular disease has been carried to such a point that I can now give preliminary notice of my findings. A more extended account of this research will be published in the near future.

This disease I have found prevailing in destructive measure in many widely separated places. I have observed it in various nurseries in New England, New York, and New Jersey, as well as in numerous private plantings, while reports have been received of its occurrence in various states as far west as Oregon, in Ontario, Canada, and in Germany.

Plants affected with graft-blight exhibit symptoms of general nutritional deficiency, characterized by a progressive yellowing of the leaf margins and intervenous spaces, reduction in the size and number of the leaves, brittleness and curling of the leaves, premature or abnormally late leaf fall, and the resultant stunting of growth of the plant as a whole. It is limited, for the most part, to plants one to three feet in height and three to seven years of age. Since the symptoms are not usually ameliorated as the plants grow older, the cumulative effects of the disease are shown by those which linger on in a state of depauperate dwarfism; such plants are finally discarded or because of their lowered resistance fall a prey to some secondary disease. A relatively small proportion of blighted plants recovers.

Although the disease gives all appearance of being of abiotic origin, care was taken to demonstrate that it was not of a contagious nature. Attempts were made to transmit it by recognized methods of inoculation such as are used in the case of diseases caused by fungi, bacteria, or viruses. The results of these experiments have proved definitely that the disease is not accompanied by the presence of any pathogenic organism or contagious principle. Likewise the distribution of the disease indicates that it is not of a biotic type.

Although of abiotic origin, the disease shows no consistent relation to the external environment. It occurs under widely varying conditions of temperature and rainfall, on various kinds of soil, and in plants adjacent to absolutely healthy ones.

By a process of elimination the search for the cause was narrowed down to an investigation of the relation of the disease to the grafting method so commonly employed by propagators. It was soon found that the disease characteristically manifests itself solely in Lilacs that were started by grafting or budding on Privet stocks. The trouble was found to lie in this practice of grafting the Lilac onto Privet.